

Notice of Allowability

Application No.

10/099,691

Applicant(s)

GRIMSRUD ET AL.

Examiner

Art Unit

Bao Q. Truong

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 15 June 2005.
2. ☒ The allowed claim(s) is/are 1,3-11,15,17,18,21-24,27,28,30-35,37-41,44-49,51,53 and 55 now renumbered as 1-39 respectively.
3. ☒ The drawings filed on 14 March 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Response to Amendment

1. The examiner acknowledges the applicant's submission of Petition for Revival and Amendment for Application No. 10/099,691 dated on 15 June 2005. At this point, claims 2, 13-14, 19-20, 25-26, 29, 36, 42-43, 50, and 54 have been cancelled; claims 1, 3, 11, 21, 24, 27, 30, 35, 37, 44, 49, and 53 have been amended. There are 41 claims pending in the application; there are 12 independent claims and 29 dependent claims, all of which are ready for reconsideration by the examiner.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Paul E. Steiner (Reg. No. 41,326) on 15 August 2005 at 11:00 am (ET).

The application has been amended as follows:

Claim 49 (currently amended) An article of manufacture comprising:

a machine-accessible storage medium including data that, when accessed by a machine, cause the machine to perform the method of claim 35, and

using a reply length indicator in the identifying data to determine how much prefetch data were received from the storage system in the reply data with the demand data.

Claim 52 (canceled).

Claim 53 (currently amended) An article of manufacture comprising:

a machine-accessible storage medium including data that, when accessed by a machine, cause the machine to perform the method of claim 44, and

wherein the determining what prefetch data to include comprises:

basing the determination at least in part on a state of the storage system,

wherein the state comprises whether the prefetch data are cached, and

wherein the state further comprises whether the demand data are cached.

Claim 56 (canceled).

Allowable Subject Matter

3. Claims 1, 3-11, 15, 17-18, 21-24, 27-28, 30-35, 37-41, 44-49, 51, 53, and 55 are allowed.

4. The following is an examiner's statement of reasons for allowance:

Claim 1 is allowable for the combination including the limitation of:

“the data requestor comprises a driver; and

the data source comprises a storage system.”

Claims 3-10 are allowable for at least the reason indicated with respect to claim 1 above.

Claim 11 is allowable for the combination including the limitation of:

“wherein the data requestor specifies null demand data.”

Claim 15 is allowable for the combination including the limitation of:

“wherein the demand data request specifies null demand data.”

Claim 17 is allowable for the combination including the limitation of:

“wherein the prefetch data include first prefetch data which are stored prior to the demand data and second prefetch data which are stored after the demand data on the storage drive.”

Claim 18 is allowable for at least the reason indicated with respect to claim 17 above.

Claim 21 is allowable for the combination including the limitation of:

“means for receiving an offset into the reply data at which the demand data is located.”

Claims 22-23 are allowable for at least the reason indicated with respect to claim 21 above.

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Claim 24 is allowable for the combination including the limitation of:

“wherein the means for selectively retrieving the demand data is adapted to retrieve the demand data from between first prefetch data stored below the demand data and second prefetch data stored above the demand data in the means for receiving reply data.”

Claim 27 is allowable for the combination including the limitation of:

“wherein the state comprises whether the prefetch data is already in a storage cache in the storage system.”

Claim 28 is allowable for at least the reason indicated with respect to claim 27 above.

Claim 30 is allowable for the combination including the limitation of:

“wherein the storage system provides, in the information, a demand data offset and a reply length.”

Claims 31-34 are allowable for at least the reason indicated with respect to claim 30 above.

Claim 35 is allowable for the combination including the limitation of:

“using an offset indicator in the identifying data to identify a beginning location of the demand data in a buffer in which the reply data were received.”

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Claims 37-41 are allowable for at least the reason indicated with respect to claim 35 above.

Claim 44 is allowable for the combination including the limitation of:

“wherein the state comprises whether the prefetch data are cached.”

Claims 45-48 are allowable for at least the reason indicated with respect to claim 44 above.

Claim 49 is allowable for the combination including the limitation of:

“using a reply length indicator in the identifying data to determine how much prefetch data were received from the storage system in the reply data with the demand data.”

Claim 51 is allowable for at least the reason indicated with respect to claim 49 above.

Claim 53 is allowable for the combination including the limitation of:

“wherein the determining what prefetch data to include comprises:

**basing the determination at least in part on a state of the storage system,
 wherein the state comprises whether the prefetch data are cached, and
 wherein the state further comprises whether the demand data are cached.”**

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Claim 55 is allowable for at least the reason indicated with respect to claim 53 above.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Q Truong whose telephone number is (571) 272-4202. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00 PM (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks, can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

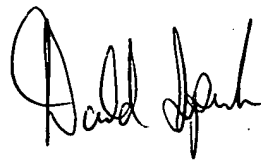
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

PAO QUA TRUONG

BT

Patent Examiner

15 August 2005



Donald Sparks

Supervisory Patent Examiner

Technology Center 2100